

# Electronic Human Resources Management and the Effectiveness of Human Resources Management

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## Abstract

The aim of the present study was to examine the effects of electronic human resources management (e-HRM) on the effectiveness of human resources management. To do so, four components of e-HRM including organizational clarity, decision-making quality, efficiency, and the quality of services are employed as research hypotheses. The population under study included 102 managers working in Shiraz University, of whom a number of 96 managers were selected using Cochran Formula as the research sample. Questionnaires used to collect the data were distributed among the participants. Then, the questionnaires were returned and the collected data were analyzed by SPSS Software. Pearson Correlation Coefficient was used to test the research hypotheses. The results of data analysis indicated that all the research sub-hypotheses beside the main research hypothesis were confirmed, suggesting that the improvement of electronic human resources management (e-HRM) will result in an increase in e-HRM effectiveness.

**Keywords:** management, Human Resources Management, electronic human resources management (e-HRM), effectiveness

## Introduction

The rapid spread of the Internet in the last decade has lead to the reinforcement and implementation of human resource management (e-HRM). E-HRM is a relatively new term that employs information technology (IT) to support electronic human resource management particularly by using web technology. The results of surveys of human resources practitioners suggest that in addition to an increase in the number of organizations

that have employed e-HRM; we have also witnessed a continuous increase in the amount and intensity of the use of information provided by e-HRM within the organizations (Zafar, 2010). In order to achieve goals such as the improvement of efficiency, business processes, customer service, the improvement the strategic role of human resources etc., organizations have started to employ facilities offered by e-HRM. E-HRM is characterized for its flexibility in different organizations. Accordingly, many organizations have conducted different studies in this field and have contributed to the effectiveness of human resource management activities by the improvement of human resources systems. To meet the new requirements of the knowledge-based economy, companies and organizations must increase their potentials as well as managers and employees' productivity, which by itself is a goal that can be followed by information systems of human resources management in general and e-HRM in particular.

Professionals believe that e-HRM has the potential of the reduction of administrative costs, the improvement of productivity, the acceleration of response times, the improvement of the decision-making process, and the development of customer services so it helps HRM to become strategic, flexible, cost effective, and more customer-centric (Stormier, 2009).

## Human Resources Management: Philosophy and Definitions

Human Resources Management is a special expertise that attempts to make some plans and policies and perform activities to achieve employee satisfaction and organizational goals (Abtahi, 2005).

Human resource management philosophy becomes clear when one looks at the developmental direction and the position it has taken in today's world. This philoso-

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phy has been established based on a series of activities that first coordinates activities between organizations and human resources in order to adopt organizational common goals and secondly to achieve organizational goals and guarantee human resource. In fact, it can be said that human resource management philosophy is based on the assumption that the achievement of organizational goals depends on the satisfaction of human needs which themselves are dependent on the fulfillment of organizational goals (Abtahi, 2005). "Human resource management includes everything that is related to the management of employment relationships in the organization" (Baxall and Parcel, 2000).

According to Guest, HRM has four key dimensions: commitment, flexibility, quality, and integration (Rasouli, 2011).

### Effective Human Resources management in the Organization

Two definitions of effectiveness have been employed in the present study:

Effectiveness refers to the degree to which the determined goals are achieved. In other words, effectiveness is an index that shows how much of the efforts have led to the expected outcome (Kazemi, 2000). To put it another way, Peter Drucker believes the effectiveness is to do right things right and effectiveness is the key for the success of an organizations (Alagheh Band, 1996).

Similarly, these definitions can be applied to HRM that is if the human resources management successfully achieves its goals we refer to it as the effective human resources management.

The staff management for years some tasks such as selection, training, and compensation for the staff services was the main function of the staff management (Sherman, 1988). However, with emergence of human resources management in the 1980's, a new area was evolved in the field of the management of human resources. Human resources management is a comprehensive approach to the management of key organizational resources i.e. human resources. It is not only an approach to the profitability of the employees but also a special approach dealing with relationships between employees with an emphasis on commitment and bilateralism (Armstrong, 1993). Biesalski, Huselid and other management theorists consider the following areas as the most important areas of human resources management (shown in Fig. 1):

- Employment and development of work force or leaving it;

- Planning, controlling, and handling work force/personnel (Ernst, 2005)

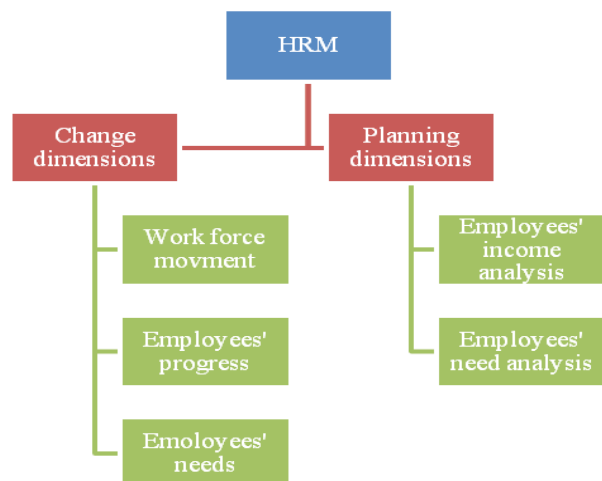
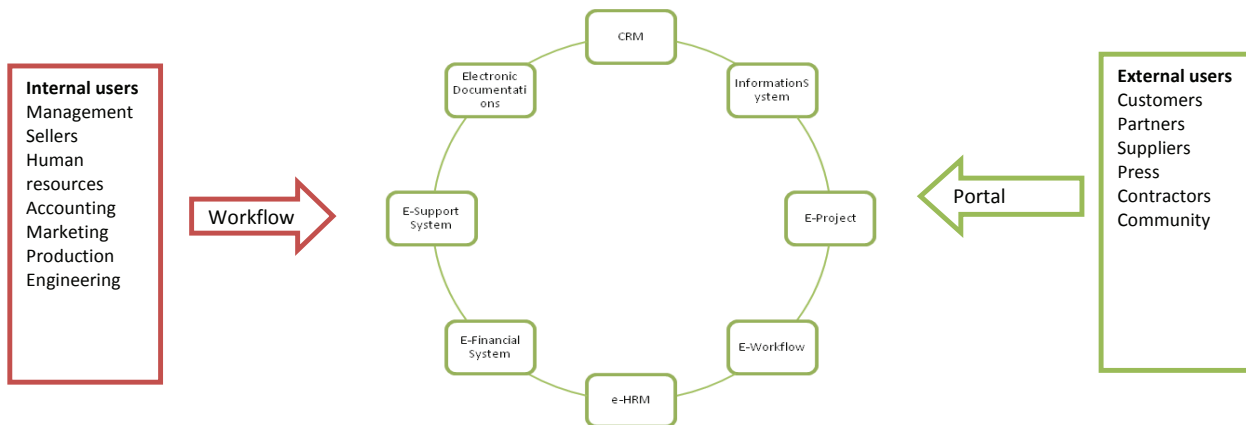


Figure 1. Dimensions of Human Resources

In addition to activities shown in Fig. 1, another definition of human resources management has been developed in the recent years due to the transformations made in the role of human resources management which is referred to as human resources management effectiveness; a concept that can be seen in most studies done by scholars in the field of management. Such scholars seek to demonstrate the value of what HR professionals do for the maintenance of the organization and the way HRM activities are connected to desired organizational outcomes. Even most researchers consider HRM effectiveness as one of the most important factors affecting the organizational performance (Saba and David, 2006). Huselid is one of those who have discussed HRM effectiveness. He has divided effectiveness into two categories: technical and strategic effectiveness (Huub and Tanya, 2006).

### Electronic Synergy (E-Synergy) and Electronic Human Resources Management (e-HRM)

E-Synergy is an advanced and comprehensive web-based administrative system, which is in fact an extension of human resources planning system, which enables organizations to manage all of their processes and operations such as the management of clients' relations, customer services, electronic workflow, knowledge management, marketing, employment, and hiring, planning for interests, web portals, and on line reporting (E-Synergy, 2002). E-Synergy is, in fact, a web-based business management solution that provides people, processes, and the knowledge that are more important for the organization (Op cit, 2002).



**Figure 2. Conceptual Model of Business E-Synergy**

One of the benefits of E-Synergy is that it enables internal and external users to login to the website and have on line access to all types of information whenever needed to make appropriate decisions. However, due to security controls in the system; only authorized people are allowed to login to the system and have access to information.

### Electronic Human Resources Management (e-HRM)

Electronic Human Resources Management (e-HRM) is an extension of Human Resources Management Informational System that is in charge of handling both traditional tasks of HRM and its strategic tasks. The emergence of issues such as E-HRM has led to changes in strategies employed by organizations toward the use of newer information system since most organizations believe that they need to keep the pace with rapid developments of today's world and use the new innovations in the field of IT. Therefore, the employment of the new system of e-HRM will result in the optimal performance of tasks of human resources sector in organizations. The organization will have comprehensive information about individual employees though the use of e-HRM. Besides, employees are able to have access to their records and documents to use them and even to update them if necessary. The advantages of e-HRM are as follows:

- The accessibility of comprehensive and applied information about all employees provided by employees themselves
- Assisting the management in the decision making process
- Employees' awareness of the types of information the organization can access about them

- The clarity of employees' positions within the organization

- Online and updated use of the organizational structure, occupational functions, and reports related to relations within the organization (Huab, 2004)

### Goals of e-HRM

#### Major objectives of tendency towards e-HRM

Zeliak Vansell points out four pressing factors related to virtual human resources that can be considered among objectives of tendency toward e-HRM

1. Human Resource departments are asked to focus on strategic questions.
2. These departments need to be flexible in terms of policymaking and measures to be taken
3. Human resources departments should be more efficient and be more aware of (sensitive to) costs
4. Human Resources departments must always be strategy-oriented, flexible, efficient, and customer-centric.

#### Major objectives of application of e-HRM

Accordingly, the objectives of using e-HRM can be summarized in the form of four aspects:

1. The improvement of efficiency
2. The improvement of administrative processes
3. The improvement of customer services
4. The improvement of strategic roles of human resources (Sahar Khiz, 2011).

### E-HRM Functions

Three main functions have been identified for e-HRM:

**Dissemination of information:** This type of e-HRM uses the intranet as the main tool and the chosen medium to transfer data/information.

- Automation of transactions using workflow chart: In this type e-HRM, paper processes are replaced with

electronic inputs. Besides, the intranet and extranet are used frequently to implement various applications.

**Changes in the specific functions of HRM:** In this type of e-HRM, tasks and functions of human resources will change from everyday forms to more strategic forms.

Another type of e-HRM classification is based on the degree to which the tools are used for this purpose are advance. This classification is presented in the form of three generations of e-HRM as shown in Table 1 (Evans and Barsoux, 2002):

**Table 1: Classification of e-HRM**

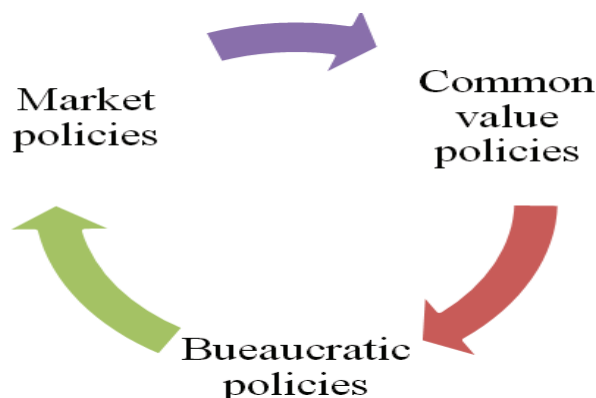
Three generations e-HRM			
G1: Increase in speed		G2: Improvement and qualitative change	G3: Doing impossible things
e-HRM Functions	The main task of e-HRM is the distribution of information.	The main task of e-HRM is the distribution of information and its improvement.	Dissemination of information and doing impossible tasks (general access)
	Automation of transactions and increasing their speed	Automation of transactions and improvement through fewer errors and better management of data	Automation of data and doing impossible thing by offering employees several options to select from among
	Allowing HRM to play a more strategic role	Through having a better quality, HRM can play a more strategic role	HRM can employ tools whose application was not possible to support its strategic tasks.
			Dissemination of information
			Automation of transactions
			Changing some aspects of HRM

### Implementation of e-HRM

Given the importance of the management of e-HRM, most managers are trying to implement this system. Therefore, they need to take the following four steps:

*Step I: The identification of main strategies and policies of the organization and human resources management*

According to the new studies done by Beer and his colleagues, organizational strategies can be classified into three groups (See Fig.3):



**Figure 3: Illustration of HR policies**

Each of these policies has unique features that affect human resources management:

1. Bureaucratic policies exist in particular in those organizations that are operating in a static environment. The first strategy is, in fact, the same as traditional human resources activities seen more often in passive and defensive organizations.

2. Market policies are evident in organizations that have to react quickly to environmental changes and severe volatility of markets. Those organizations that adopt such strategies are called analysts.

3. Common value policies can found in organizations that focus entirely on innovation and the quality of goods and services delivery. The employees' expertise in such organizations is considered as an important factor of success. The third approach is in fact the strategic management that has an impact on strategic effectiveness of human resources to create competitive advantage. The second and the third approaches lead the organizations towards the adoption of e-HRM.

*Step II: Taking into account e-HRM objectives*

Many professional have proposed four objectives to move organizations towards e-HRM management. These objectives are:

1. The focus of human resources and electronic system on strategic factors and systems
2. Flexibility policy making and implementation
3. The focus on the effectiveness of human resources and cost reduction
4. The role of offering services to managers and employees

These four objectives briefly introduce e-HEM as strategy oriented, flexible, efficient, and a service providing system. As a result, the goal of the introduction and implementation of e-HRM in most organizations is the standardization and coordination of HR activities and policies among all sectors of the company and presenting the image of the company

as a global identity rather than a separate international sector (Journal of Tadbir, 2001).

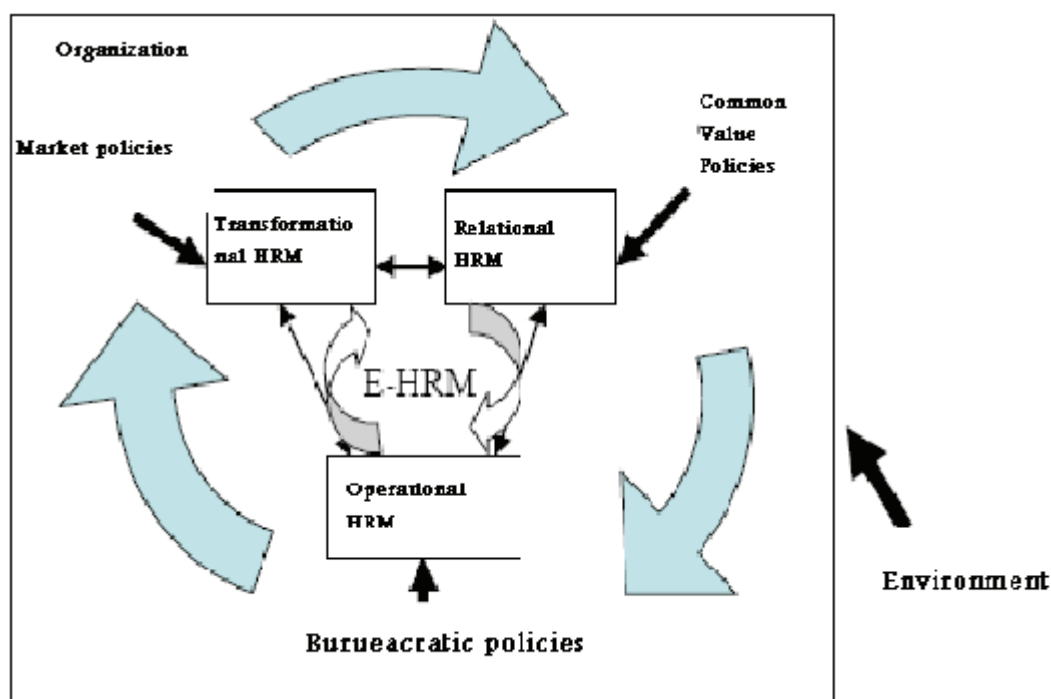
*Step III: Familiarity with administrative areas of e-HRM with regard to HR management*

According to Wright and Dyer, three selected areas of implementation of HRM have been developed electronically as follow:

1. Transactional HRM
2. Traditional HRM
3. Transformational HRM

On the other hand, Lepak and Snell have proposed a similar distinction as follows:

1. Operational HRM
2. Relational HRM
3. Transformational HRM (See Fig. 4):



**Figure 4: e-HRM areas based on organizational policies**

Step IV: Monitoring e-HRM implementation and the achievement of desired results

Two important events must happen in the organization through the accurate monitoring of e-HRM implementation and the use of Information Technology:

1. Professional development: Generally IT and e-HRM facilitate the development of employees' skills and improve organizational productivity in the following areas:

- A. The reconstruction of old skills
- B. Filling in previous vacancies
- C. The creation of new skills

D. The creation of a bond among employees' skills  
E. Skill development become procedural (Soltani, 2003)

2. The institutionalization of change and innovation: The institutionalization of change and innovation depends on the way humans deal with information produced. In other words, when the influence of e-HRM and its adoption by individuals is low there will be no change in the status quo and all efforts and energies will be spent on maintaining the existing conditions. On the other hand, when the influence of e-HRM is considerable but it is not welcome by people,



information collected will go useless, as there will be no customer demanding it. However, if then the influence of e-HRM is insignificant but there is a great demand for it, creativity will be produced as the result of

lack of needed information? The optimal conditions occur when the penetration of e-HRM is considerable and there is a high demand for it; resulting in the integrity of creativity and change (Huub & Tanya, 2006).

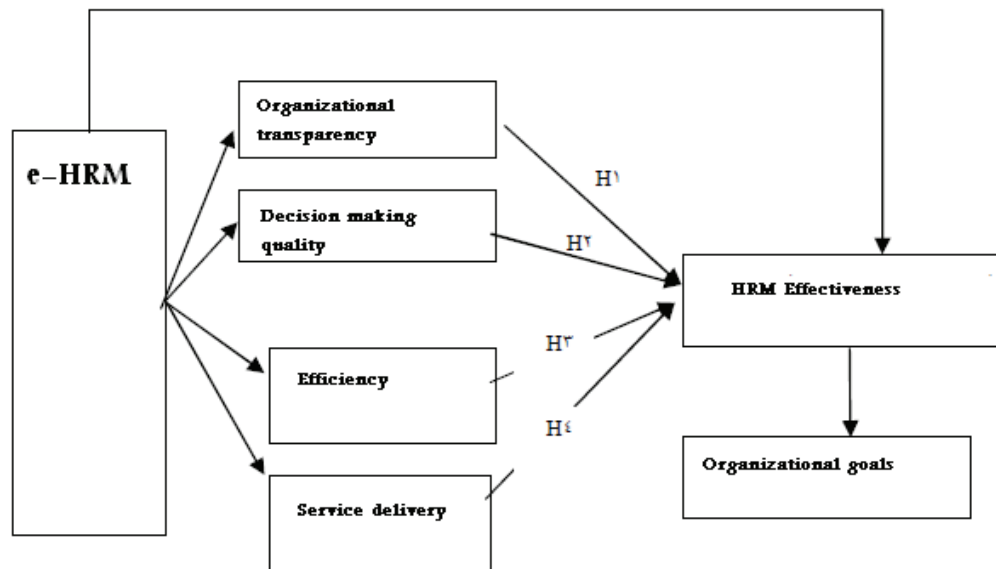


Figure 5: Conceptual model of the study

## Materials and Methods

The present study is an applied research concerning the objectives it pursues and is a descriptive-survey research with regard to its nature. The instruments used to collect the data were questionnaires. Besides, Pearson correlation coefficient was used to determine the significance and the relationship between variables under study. The reliability and validity of the questionnaire was measured by the Cronbach's coefficient alpha as equal to 0.841; showing that the questionnaire had an acceptable level of reliability. In addition, after the questionnaires were returned back, the collected data were analyzed using SPSS Software Package. The population under study included 102 managers working in Shiraz University, of whom a number of 96 managers were selected as the research sample using Cochran Formula.

$$n = \frac{Z^2 P q}{d^2} = \frac{(1/96)^2 \times .5 \times 0.5}{(.1)^2} = \frac{.964}{0.01} = 97 \quad (1)$$

## Results

*H1: There is a significant relationship between e-HRM transparency and HRM effectiveness.*

Pearson correlation coefficient was used to test this hypothesis. The results of analysis as shown in Table 2 indicated that there is a significant relationship between e-HRM transparency and its effectiveness ( $R = 0.24$ ,  $P < 0.02$ ). Therefore, the first sub-hypothesis is confirmed.

Table 2: Pearson correlation coefficient for the first sub-hypothesis

Organizational transparency	r	P <
HRM Effectiveness	0.24	0.02
Number of respondents = 96		

*H2: There is a significant relationship between decisions made by e-HRM and HRM effectiveness.*

Pearson correlation coefficient was used to test this hypothesis. The results of analysis as shown in Table 3 indicated that there is a significant relationship between decisions made by e-HRM and its effectiveness ( $R = 0.07$ ,  $P < 0.18$ ). Therefore, the second sub-hypothesis is confirmed.

Table 3: Pearson correlation coefficient for the second sub-hypothesis

Quality of decision making	r	P <
HRM Effectiveness	0.18	0.07
Number of respondents = 96		

H3: There is a significant relationship between e-HRM efficiency and HRM effectiveness.

Pearson correlation coefficient was used to test this hypothesis. The results of analysis as shown in Table 4 indicated that there is a significant relationship between e-HRM efficiency and HRM effectiveness ( $R = 0.07$ ,  $P < 0.18$ ). Therefore, the third sub-hypothesis is confirmed.

**Table 4: Pearson correlation coefficient for the third sub-hypothesis**

Efficiency	r	P <
HRM Effectiveness Number of respondents = 96	0.25	0.01

*H4: There is a significant relationship between services offered by e-HRM and HRM effectiveness.*

Pearson correlation coefficient was used to test this hypothesis. The results of analysis as shown in Table 5 indicated that there is a significant relationship between services offered by e-HRM and HRM effectiveness ( $R = 0.07$ ,  $P < 0.18$ ). Therefore, the fourth sub-hypothesis is confirmed.

**Table 5: Pearson correlation coefficient for the fourth sub-hypothesis**

Service delivery	r	P <
HRM Effectiveness Number of respondents = 96	0.95	-0.01

*H5: There is a significant relationship between making HRM as electronic based system and HRM effectiveness.*

Pearson correlation coefficient was used to test this hypothesis. The results of analysis as shown in Table 6 indicated that there is a significant relationship between making HRM as electronic based system and HRM effectiveness ( $R = 0.36$ ,  $P < 0.0001$ ). Therefore, the fourth sub-hypothesis is confirmed.

**Table 6: Pearson correlation coefficient for the fifth sub-hypothesis**

e-HRM	r	P <
HRM Effectiveness Number of respondents = 96	0.36	0.0001

## Conclusion

E-HRM is an innovation in the field of HRM as in the first place, it provides opportunities for managers and employees to have control over manage-

ment-staff relationship and on the other hand, it is because of the potentials of IT in designing human resources tools that is not possible through services provided by IT. Today, the development of knowledge and bringing change and innovation in human resources is readily possible by the development of employees within an organization. IT and e-HRM play a significant role in professional development, institutional change and innovation, increased engagement, increased competence and capability, cost effectiveness, and increased consensus and cohesion. Besides, such facilities can bring about human development. However, if the Department of Human Resources will continue to maintain traditional methods, one can hardly expect a change in a fundamental manner. It should also be noted that organizations and companies need to go ahead systematically. In other words, they should go through operational and communicational procedures as a part of e-HRM processes and take into account and localize such procedures based on their approaches, views, and culture and natives and employs a an accurate planning process.

In order to make HRM more effective, the use of e-HRM is recommended as follow:

1. All managers and employees participating in this study are needed to consider the following points:

- Information Technology is an opportunity for human resources.
- Information technology can be a source of dynamism in the organization.
- Information technology can facilitate the strategic role of human resources.
- Taking the trust of senior managers
- Creation of stability in businesses and services
- Information technology is a empowerment tool
- The quality of implementation plays a major role in the success and effectiveness.
- Individuals should not be caught in the trap of technological fad
- Knowing the challenges and avoiding quick actions is a necessity
- Familiarity with new technologies and considering the expectations of stakeholders

2. Having a clear vision of the role of technology and the way it influences

3. The need to rethink processes and avoiding fashion

4. Holding training and in-service courses for managers and employees to get familiar with e-HRM

## References

- Abbas Pour, A. (2009). *Advanced Human Resource Management*. 4<sup>th</sup> ed. Tehran: SAMAT Press.
- Abtahi, S.H. (2005). *Human Resource Management* (12<sup>th</sup> Edition) Tehran: Payam Noor University Press.
- Alagheh Band, A. (1996). *General Management*. Tehran: Ravan Press.
- Armstrong, M. (1993). *A handbook of Personnel management Practice*. 4<sup>th</sup> ed. London: Kogan Page 3.
- Biesalski, E., & Abecker, A. (2005). *Human Resource Management with Ontology*. Daimler Chrysler AG, Werk Worth, Forschungszentrum Informatik (FZI), Karlsruhe. E-Synergy Product Brochure. Available at <http://http://www.scsi-usa.com/literature/esynergy.pdf>, 2002.
- Boxall, P & Purcell J. (2000). Strategic Human Resource Management: Where have we come from and where should we be going? *International Journal of Management Review*, 2, 2, 184.
- Gary, D. (2005). *Fundamentals of human resource management*. 3<sup>rd</sup> ed. Translated by A. Parsaeian and M.A. Arabi. Tehran: Publications of Office of Cultural Research.
- Huub, J.M., & Ruel, T.V. (2006). Bondarouk, Mandy Van der Velde, The contribution of e-HRM to HRM effectiveness. Available at <http://www.emeraklinsight.com>.
- Huselid, M. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38, 635-720.
- Kazemi, B., & Abtahi, S.H. (2000). *Productivity*. Tehran: Publications of Institute of Business Studies and Research, 9-10.
- Rasouli, R. (2011). *Human Resource Management*. 1<sup>st</sup> ed. Tehran: Payam Noor University Press.
- Saba C., David, P., Lepaka & Ying, H. (2006). Measuring HRM effectiveness: Considering multiple stakeholders in a global Context. The State University of New Jersey: School of Management and Labor Relations, Department of Human Resource Management, Piscataway.
- Saharkhiz, F. (2011). Effectiveness of electronic human resource management. *Journal of Technology Development and Industrial Packaging*.
- Sherman, A.W., Bohlander, G.W., & Chruden, H.J. (1988). *Managing Human Resources*. 8<sup>th</sup> ed. Cincinnati: Southwestern.
- Sultani, I. (2003). The role of information technology in human resources development. *Journal of Tadbir*, 138.
- Strohmeier, S. & Kabst, R. (2009). Organizational Adopting of e-HRM in Europe. *Journal of Managerial Psychology*, 24, 6, 482-501.
- Zafar, J. Shaakat, M. & Mat, N. (2010). An Analysis of E-Human Resource Management Practices: A Case Study of State Bank of Pakistan. *European Journal of Social Sciences*, 15, 1, 18-21.